Research in Family Medicine: Classification, Directions, and Costs

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Family medicine has not yet developed an overall research effort that particularly characterizes the field, but this situation now is changing. Today there are fellowship programs to prepare faculty for academic family medicine, and large numbers of people are beginning to think about research as a contribution to the field, to their careers, and to their departments in the hierarchical structure of academic medicine.

In the Robert Wood Johnson Family Practice Fellowship Program at the University of Missouri–Columbia, a sample of publications in family medicine has been studied using a newly developed set of criteria that characterize research and that can be considered a normative definition of research. Along with this study, an attempt has been made to think systematically about research areas especially pertinent to family medicine and about the funding of such research. This paper is the result of part of that thinking process.

Over the years there has been considerable difference of opinion about doing any research in family medicine. Many have feared family medicine might suffer from too much research done at the expense of patient care, and they have avoided involvement in research. This fact makes it especially important that any research effort in family medicine be relevant to the clinical field and to patient care, even if that relevance is indirect.

Any discipline must either grow intellectually or wither. One of the reasons for doing research in family medicine is to add knowledge to a field that lacks answers to many of its questions and which needs an intellectual base that can generate other knowledge as time passes. Another reason for doing research in family medicine is more pragmatic. Family medicine can do its job best if it is accepted as a full partner in the academic world, so that the ideals, goals, and working energies of its practitioners and teachers can influence the course of medical education in positive ways. Research is one of the coins of the academicians' realm, and family medicine faculty must have their share of those coins.

What are the characteristics of research relevant to family medicine, and how can that research be funded? The classification presented here consists of five main types of research, beginning with that most directly related to primary care services and ending with that least obviously related to any direct patient services. The five research areas are (1) research on the content of family practice, (2) research on the delivery of family medical care, (3) research on the family aspects of family medicine, (4) research external to personal health services but relevant to family medicine, and (5) cross-cultural studies relevant to family medicine.

Biomedical research has been excluded from this classification. This a priori decision is based upon a personal belief that research based mainly on the concepts of molecular biology is not research that belongs to family medicine. As this classification is outlined, comments will be included about funding each specific category of research.

A Classification of Family Medicine Research

Content of Family Practice

Work on the content of family practice arises directly from questions about the problems seen in

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family practice patients and settings and identifies those health and illness problems that must be part of the experience and training of those who wish to become medically competent family physicians.

The following subgroups are included under this heading:

Studies That Characterize Primary Care

Many such studies have been made. The most notable in family medicine is that from the Medical College of Virginia,[1] but earlier work of White[2] and others falls into the same group. These studies may be small and local, or large and international in scope. They are particularly suited to resident education and to capturing the interest of potential faculty in the investigative process.

Studies of Illnesses Common in Family Practice

Such studies as the epidemiology of urinary tract infections, evaluation of various methods of diagnosis and treatment of streptococcal disease or studies of the epidemiology of trauma are suitable and directly related to family practice. Randomized clinical trials of various forms of diagnosis and treatment of other common disorders, such as otitis media or vaginitis, fall into this group, as do studies of psychophysiologic disorders such as functional bowel disease. This approach is equally applicable to clinical behavioral medicine, an area poorly developed in family medicine and one which has great potential for family medicine research.

Studies of the Natural History of Disease

Everyone in medicine can cite many instances when it was clear that little was known of the potential course of a common disorder, when one assumed, but never knew, what the natural evolution of a disease might be. Hypertension, coronary artery disease, pneumonia, upper respiratory tract infections, tension headaches, pulmonary emphysema, and otitis media all come to mind as disorders in which therapeutic behavior might be more effective if the natural history of the illness without interventions was better understood. Sir George Pickering's pioneer studies of the family background and distributions of blood pressures provided a new way of looking at the disorder of hypertension,[3] teaching about the family variations in blood pressure ranges. To this day it is not clear whether treatment for uncomplicated urinary tract infections in women benefits those women, or what the relationship of such infections is to sexual activity, to childbearing, to fluid intake, or to personal hygiene. Those in family practice settings have an obligation to undertake this kind of study of health and illness, both because of the pertinence of such information to the conduct of family practice and because of the unique opportunity such settings provide to collect information of value to all of medicine.

The manner in which research on the content of family practice is funded, of course, depends upon the size of the study being conducted. Studies using existing computer/encounter-form systems represent simple comparison efforts that often can be paid for as part of residency training. More complex studies, such as those comparing efficacy of various treatment schedules for streptococcal sore throat or urinary tract infections, in which cultures or antibody titres are part of the protocol, require additional funds. It is worth keeping in mind, however, that some cultures often are done free of charge in state laboratories as a public health service. Streptococcal cultures are a frequent example. Small grants may be available as well from institutional research funds. Larger efforts, such as randomized clinical trials or the evaluation of behavior therapy, require formal application for outside research grants. This is an increasingly difficult area in which to be successful, and one of the hoped for outcomes of the various new fellowship programs is that faculty from these programs will be better equipped to compete for such funds.

Delivery of Family Medical Care

These studies are classified as health services research, which may be defined for the purposes of this discussion as follows:

Theoretical or applied research which examines the organization and performance of health care delivery sys-

tems and makes possible informed health care policy. It is a distinct area of inquiry in which systematic methods are applied to problems of the allocation of finite health resources and the improvement of personal health care services.[4]

Surely this area of investigation is pertinent to family medicine. Among the many types of studies that might be done are studies of the organization, productivity, quality, and cost of family medical care; effects of teams of health care professionals in different family practice settings; and specific studies of individual records systems. Health manpower studies, especially examination of the principles and rules governing the specialist/generalist interface, are also very important in family practice.

Like research on the content of family practice, small health services research efforts frequently can be funded from internal program sources. However, health services research is much more difficult to fund than are some of the other types that have been described, partly because comparison of delivery systems requires large sums of money, and partly because the total annual funding of the National Center for Health Services Research not only is low, but is decreasing. Much of the new grant support from the National Center has gone in recent years to several regional research centers, and even those are being phased out. Former members of these regional centers are in the same position of competing for funds as are newly interested family physicians. Researchers working in those institutions with a critical mass of research staff do compete more successfully for these scarce funds, and there is little optimism about improved federal funding of health services research for family medicine. The Robert Wood Johnson Foundation, however, has shown some interest in research related to health services and may embark upon a grants program in this area in the near future.

Family Aspects of Family Medicine

The many aspects of family life and dynamics that may influence health and illness constitute a unique aspect of any research in family medicine. Many studies are possible in this area. Two basic areas are the following:

Studies of the Intrafamily Epidemiology of Illness

This is a classical approach to the effect of family upon traditional disorders and is one in which some work has already been done. But much more work is needed in this area if the "how" and the "why" truly are to be understood. The effects of more subtle intrafamily relationships upon susceptibility to infectious disease need study. Do psychologic factors affect the incidence of "organic" disease? Does distress from symptoms increase at times of family difficulty? Such may be the case, but more work needs to be done to know. Development of careful techniques for symptom quantitation will be necessary, techniques which would be broadly applicable to other fields as well as helping to understand family medicine. Family practice settings are ready-made for such studies to be carried out.

Studies of the Effects of Family Structure, Family Stress, Social Structure, and Social Stress on Health and Illness

Epidemiologic tools and skills can be used to study the very things that the founders and leaders of the family medicine movement believe to be unique about family medicine itself. For example, almost every family medicine training setting maintains some type of computer or other modern encounter system that collects and stores demographic, medical, therapeutic, social, and family information. Such data can be used to develop and apply measures of social and family structure and stress to innumerable questions of health and illness behavior, incidence, prevalence, and outcome. The special characteristics of the interaction between a well-trained and empathetic family physician and his or her patients can be studied, documented, evaluated, and then improved upon to the benefit of other patients and their physicians. Indeed, it is in this area that family medicine perhaps has opportunities for research which cannot be done in any other specialty or medical care setting. Such topics as family stress and structure and the use or nonuse of health care facilities and professionals,

adherence to medications or to behavior modifying regimens, serious manifestation of family and social pathology such as teenage pregnancy, violence and other forms of risk taking behavior, drug use, or runaways all could be investigated. The list is endless, the opportunities manifold.

There is little precedent upon which to base any statement about funding of the specifically family oriented studies as those just described. However, there is reason for some optimism about future funding for these kinds of studies, since such studies cut across the interests of extremely diverse groups. Small, private family foundations with particular interests, groups interested in mental health, governmental agencies worried about quality of care and about cost, as well as major federal funding sources, all will find something of interest in this research area. The present surge of interest in studies of aging includes family and social factors affecting the aging process and the handling of problems of the aged in various social and medical settings. Any field of investigation that has in it so much for so many people seems likely to be better funded than are those fields without these characteristics.

Studies External to Personal Health Services but Relevant to Family Medicine

A wide variety of investigative areas interfaces with family medicine and personal health services but does not directly encompass family medicine. These areas include environmental health problems, occupational illness, and community health services. A different but very important field is family participation in ethical decisions and bioethics in general. The ethical set of problems does not lie just in the domain of the philosopher or of the physician dealing with tertiary care. Indeed, this work has special significance for family physicians, who are responsible for the patient from birth to death and who in a lifetime of practice may deal with problems of abortion, informed consent, living wills, death and dying, all within the same family constellation. Family physicians can make special contributions to the solution of such problems. It is difficult to find financial support for these kinds of studies as well as for those to be described next, but more and more groups are becoming interested. Foundations, the National Endowment for the Humanities and similar groups, and even on occasion the National Science Foundation, may be of help. Small sums of money also are available from the Bureau of Health Manpower, but it is uncertain whether increased federal money can be anticipated in any research field.

Cross-Cultural Studies Relevant to Current Issues in Family Medicine

Particularly in these times, when society in general and medicine in particular are thought to be overspecialized and increasingly narrow in focus, it is important to identify pertinent information from fields other than medicine for application to health problems. Family medicine has a special opportunity to reach this difficult but important goal. For example, studies of reasons for choice of type of health care provider are of great interest in family medicine and to family physicians, who could benefit from understanding this process of choice in other cultures. Such information can be of direct practical value when the "other culture" is a minority group in this country, but there are more basic gains to be realized. For example, anthropologic studies of health care choices in Taiwan,[5] India,[6] and Africa[7] already have told us much about the underlying health care choice process. Some of this work deals directly with the family choice process and is important to the basic concepts of family medicine.

Discussion

It is clear from this listing of diverse topics for research that there are more than enough opportunities for research in family medicine. And although there surely will be disagreement about the relevance of certain specific categories or projects to the field of family medicine, the research topics cover a wide range of areas and require varied methods and approaches. Nevertheless, quantitative methods and at times a strict experimental model fit many of the problems best and are most

clearly recognized as representing research. Credible work must perforce often use quantitative methods and more or less follow the experimental model to be useful in an increasingly scientific and technologic world and to have acceptance in the academic community.

However, there are some real risks involved in totally and uncritically adopting this model. Family medicine has many of the characteristics of a movement as well as a discipline. This view, so beautifully developed by Stephens,[8] makes it clear that some of the attractiveness and usefulness of the field to society depends upon this aspect of family medicine rather than upon its scientific basis. The beliefs of many of the founders of family medicine, too, include a positive and useful mystique thought to be beneficial not only to the practicing family physician but also to the patient in the physician/patient interaction which characterizes a family medicine patient encounter. Those aspects of the field that represent the "movement" and are not parts of a scientific discipline should be preserved. Strict quantitative research may not be the best way to go about this preservation and to some extent may be antithetical to it. It would be sad if family medicine fell into the trap of imitating other fields of medicine, being coopted by the methods and philosophies of traditional academic disciplines. A different methodology and language may be necessary to adequately describe those aspects of family medicine that deal with the special qualities of family medical care and that must be understood in social and cultural terms. There are many precedents and examples in the social sciences that may be helpful in this respect.

Two additional suggestions are in order regarding family medicine research funding. The first concerns the use of income from clinical care for research purposes. Such income falls short of paying for even the clinical care setting in which residency training takes place; as a result, there is no excess clinical income to be used for research. Departmental activities already are being supported by diverse other sources: institutional funds, gifts, and grants. I propose, therefore, that since the clinical operations already are deficit operations, some percentage of each group's clinical income (eg, 3 to 5 percent) be considered part of program operations and be set aside for family medicine research by that group's residents and faculty, and that the other sources of departmental support be increased to the extent possible to compensate for those funds set aside. Thus, usual sources of funds would be used to make up what should be viewed as usual deficits in the clinical operation deriving from expected program characteristics, not money specifically earmarked for research. Such a minor change could go a long way toward making at least start-up money available where research presently is poorly developed.

The second suggestion is more global. Could the Society of Teachers of Family Medicine, in conjunction with the American Academy of Family Physicians, combine their resources to raise $20 to 30 million in endowment to provide income funds to support a small grants competitive research effort? There are over 60,000 family physicians and many corporate donors sympathetic to the humanistic patient care goals of family medicine. It may well be that this kind of effort could be successful.

In summary, there are many exciting possibilities for research in family medicine—research that is worth doing. It is important for all those who participate in this research to keep the major principles of family oriented patient care as the primary goal throughout the investigative process.

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